

PROTOCOL FOR INFLUENZA SURVEILANCE AND RESPONSE

AT

HONOLULU INTERNATIONAL AIRPORT

RFP No. E01741-08

ATTACHMENT A

Protocol for Influenza Surveillance & Response at Honolulu International Airport

Background:

Honolulu receives approximately 2.5 million foreign visitors per year with a large proportion from East and Southeast Asia, where novel viruses are expected to emerge.¹ Recent outbreaks of human illness caused by influenza A (H5N1) virus infection in some Asian countries have highlighted the importance of monitoring influenza activity among persons entering Hawaii as part of national pandemic preparedness.

Current protocols require commercial airlines to report incoming ill passengers to the Centers for Disease Control and Prevention (CDC) Honolulu Quarantine Station (HQS) so that they may be assessed at the gate for contagious diseases of public health significance. However, not all ill passengers are readily identified, especially if they are only mildly symptomatic. Some passengers may not seek medical care until arriving at the airport medical clinic having left the gate area to mingle with and possibly transmit infections to other travelers at a crowded airport. Other passengers may not seek medical care until after leaving the airport, showing up at private medical facilities in the community. Delayed presentations increase the likelihood of dispersion of the infectious disease and make containment more difficult. Epidemiologic contact tracing in response to delayed presentations is also less efficient and much more work-intensive to perform, especially when passenger data are reconstructed days after a flight has arrived.² To better address the threat of newly emerging or non-endemic influenza importation into Hawaii, the Hawaii Department of Health (HDOH) proposes the following public health response:

Objective:

To implement enhanced influenza surveillance at the Honolulu International Airport (HIA) by on-site collection of respiratory specimens from sick passengers for influenza testing in order to promote early detection of novel influenza strains that may be introduced into Hawaii by travelers.

Impact:

Implementing enhanced influenza illness surveillance at the HIA will accomplish the following:

- Improve our state's ability to rapidly detect, characterize, and respond to the infectious disease threat of pandemic influenza
- Enable public health officials to collect influenza test specimens along with detailed passenger contact information for contact tracing and disease control/containment activities if warranted.

Methods: (Please refer to Appendix 1: Algorithm for Influenza Testing at HIA)

Overview:

HDOH will enhance influenza surveillance among domestic and international travelers in collaboration with HQS and Queen's Airport Medical Services (QAMS). QAMS will facilitate on-site respiratory specimen collection for patients presenting at the Honolulu International airport with influenza-like illness symptoms by collecting two nasopharyngeal swab specimens. These will be sent to the State Laboratory Division (SLD) for analysis using real time-polymerase chain reaction (rti-RT-PCR) and culture isolation for influenza. Specimens deemed to be high-risk for avian influenza will be sent to CDC Influenza Branch for further testing. Residual specimens at

both SLD and CDC that test negative by rti-RT-PCR and culture isolation for influenza A and B will be discarded.

A. Target group, patient identification, evaluation, notification & testing:

1. Target group - The target group for enhanced surveillance will be interstate and foreign travelers with a fever or history of fever of body temperature 100 F or greater, plus one or more of the following symptoms: headache, muscle aches, sore throat, cough, chills, malaise, and/or vomiting.
2. Identification - Ill travelers may be identified in any one of the following methods:
 - a. Airline carriers report international travelers who are determined to be "ill" in terms of Foreign Quarantine regulations³ directly to HQS. These ill travelers are evaluated collaboratively by staff from both HQS and QAMS.
 - b. Airline carriers can request treatment directly from QAMS without notification or consultation of HQS for both domestic and international travelers who do not meet Foreign Quarantine regulations "ill" clinical criteria.
 - c. Any passenger who requires medical treatment at any point while physically located within Honolulu International Airport can be evaluated by QAMS.
3. Evaluation - QAMS staff will arrive and evaluate patient
4. Supplies - HDOH will supply QAMS with all supplies necessary for implementation of this protocol including but not limited to masks and eye shields.
5. Notification of HQS and HDOH -
 - a. Suspect avian influenza:
If patient meets criteria for suspect avian influenza (or any other quarantinable communicable disease):
 - i. QAMS will call HQS personnel by phone at 861-8530 if they are not already involved. HQS will respond by telephone within 20 minutes of notification from QAMS. HQS will follow CDC protocol and guidelines.
 - ii. At the same time, QAMS will also notify HDOH as follows:
 1. During normal work days between 7:45 am - 4:30 pm at 586-4586.
 2. If outside of normal work hours, call the same number but DO NOT LEAVE A MESSAGE. Instead CALL THE NUMBER FOR THE AFTER HOURS OPERATOR at 566-5049 given in the message. HDOH Standby Duty Officer will respond by telephone within 10 minutes of notification. (See Appendix 5 - Table 1: Contact numbers: To report SUSPECT AVIAN INFLUENZA)
 - iii. If neither HQS nor HDOH has responded before QAMS is requested at another airport emergency, then QAMS shall not have responsibility for the disposition of the patient.
 - iv. QAMS will not be responsible for quarantining patient or enforcing any control measures.
 - v. If patient refuses treatment and /or specimen submission, QAMS will not be responsible if a patient leaves without medical treatment or influenza specimen collection.
 - b. NOT suspect avian influenza:

If patient does not meet criteria for suspect avian influenza (or any other quarantinable communicable disease) then QAMS staff will determine if patient meets clinical criteria for influenza testing.

6. Influenza testing - If clinical criteria for influenza testing are met, QAMS staff will
 - a. Obtain patient's written consent for medical treatment by QAMS and diagnostic testing by HDOH
 - i. QAMS will obtain patient consent for medical treatment using QAMS routine consent form. If the patient refuses, QAMS will no longer be responsible for treatment but may attempt to obtain patient consent for HDOH specimen collection.
 - ii. QAMS will obtain patient consent for HDOH specimen collection and diagnostic evaluation using HDOH consent form (Appendix 2). HDOH represents that said form shall comply fully with all applicable laws and regulations and shall release, hold harmless and indemnify QAMS from any claims related to use of such form. If patient refuses, QAMS will no longer be responsible for obtaining influenza testing specimen.
 - b. Review influenza testing information on the back of the consent form with patient.
 - c. Review Patient Information Sheet: What You Should Know If You Have the Flu on the back of the State Lab Submission Form with patient (Appendix 3).
 - d. Complete State Lab Submission Form (Appendix 4)
 - e. Collect two nasopharyngeal swabs for transport to SLD for rti-RT-PCR and/or culture.
 - f. Specimens shall be stored in refrigerator as soon as possible (See Section B. *Specimen Collection Materials and Logistics* below).
 - g. Lab specimen pickup - Notify HDOH of specimens ready for transport to SLD according to the following:
 - i. *Suspect avian influenza:* (or other quarantinable communicable disease)
If both HQS and Disease Outbreak Control Division (DOCD), HDOH have not already been notified, immediately notify both (See Appendix 5 - Table 1) and arrange for specimen pickup.
 - ii. *NOT suspect avian influenza:*
If specimen was received from a patient that does NOT meet criteria for avian influenza (or any other quarantinable communicable disease), QAMS shall notify HDOH of pickup as follows:
 1. During normal work hours by calling 586-4586 and speaking directly to secretary
 2. Outside of normal work hours, by calling the same number to obtain the number for the after hours operator 566-5049. A HDOH Standby Duty Officer will respond by telephone within 10 minutes of notification. Arrange specimen pickup for the next business day by speaking directly with the standby duty officer who will collect the following information.
 - Name of QAMS staff person
 - Date and time of call
 - Name of patient
 - Specimen location (which refrigerator).

(See Appendix 5 - Table 2: Contact numbers: To call for LAB SPECIMEN PICKUP)

7. Patient Education- all patients from whom influenza test specimens were collected will receive education and written materials regarding influenza illness management and potential complications located on the back of the State Lab Submission Form (Appendix 3: Patient Information Sheet: What You Should Know If You Have the Flu). These materials will include information on what persons with influenza should do to take care of themselves, describe persons who may be at high risk of influenza-related complications, list warning signs that should trigger patients to seek urgent medical attention, and describe measures to reduce the transmission of influenza to others.

Patient referral - Patients who QAMS medical staff determines to be in need of immediate referral to a health care provider for a more complete clinical evaluation will be handled per QAMS routine referral criteria and protocols. Minors will be referred for non-emergent care in accordance with QAMS routine referral criteria and protocols.

8. Antivirals - Chemoprophylaxis of exposed persons and treatment of suspected influenza cases will be provided as follows:
 - a. Suspect avian influenza:
If patient meets criteria for suspect avian influenza (or any other quarantinable communicable disease), treatment and chemoprophylaxis of exposed persons will be determined by HQS. HDOH will provide assistance as requested by HQS. HDOH will provide a prescription for an appropriate antiviral medication to exposed QAMS staff. QAMS employee will follow ASI reporting guidelines and procedure for work related illness or injury.
 - b. NOT suspect avian influenza:
If patient does not meet criteria for suspect avian influenza (or any other quarantinable communicable disease), influenza chemoprophylaxis will not be provided to patient's close contacts or potentially exposed travelers regardless of influenza testing results. Chemoprophylaxis for exposed QAMS staff will be determined and provided by QAMS at their own discretion. QAMS employee will follow ASI reporting guidelines and procedure for work related illness or injury
9. Travel restrictions – Travel restrictions of ill passengers will be enforced as follows:
 - a. Suspect avian influenza:
If patient meets criteria for suspect avian influenza (or any other quarantinable communicable disease), travel restrictions will be determined and enforced by HQS. QAMS will not be responsible for any travel or non-compliance by ill travelers.
 - b. NOT suspect avian influenza:
If patient does not meet criteria for suspect avian influenza (or any other quarantinable communicable disease) then no travel restrictions will be implemented. Patients with influenza-like illness symptoms will be advised not to travel while ill and will be provided information sheet regarding risk of complications and methods to reduce the spread of infection to others. However, patient compliance with recommendations will not be enforced.

10. Result notification – Disease Outbreak Control Division (DOCD), HDOH will disseminate laboratory results to patient and both QAMS and HQS by performing the following:
 - a. Contacting patient at local residence if within time-frame of patient's visit, and
 - b. Mailing laboratory result confirmation to patient at permanent residence by address provided on State Lab Submission Form.
 - c. Faxing all confirmatory results to QAMS.
 - d. Providing any laboratory result confirmed as avian influenza to both CDC-HQS and the public health officials of the patient's nation or state of origin.
 - e. Providing results of non-quarantinable patients without identifiers to HQS upon request.

B. Specimen Collection Materials and Logistics:

1. All specimen collection materials and equipment will be supplied and maintained by HDOH, to include the following; nasopharyngeal Dacron synthetic swabs, heat-stable media tubes, ice packs, 2 refrigerators, and 2 calibrated refrigerator thermometers. HDOH will ensure viral transport media tubes are viable and replace any expired materials on a quarterly basis.
2. Packing of culture specimen once taken: Once collected and placed into heat-stable media tube, the specimen should remain cool. A hierarchy of storage procedures follows in order of preference:
 - a) Place the specimen directly in refrigerator within 30 minutes of collection
 - b) If the health care worker cannot access a refrigerator within 30 minutes; use a 3M cold pack for storing the specimen until access to a refrigerator for (up to 12 hours).
 - c) If there is no immediate access to refrigerator or 3M cold packs, specimen(s) can remain at room temperature up to 4 hours. Although the yield of return decreases with time elapsed, HDOH will still process specimens that have been at room temperature up to 12 hours.
3. Once the specimen is stored in the refrigerator it is viable for a maximum of 72 hours (This accommodates after-hours notification to HDOH).
4. DOCD, HDOH will evaluate performance of refrigerators on a monthly basis and will be held responsible for providing repair services and replacements as necessary. HDOH will be responsible for monitoring the temperatures of the refrigerators and how often QA will be done. Self-recording thermometers will be installed in each refrigerator and a daily temperature log will be assessed on a monthly basis.

C. Laboratory Testing Algorithm:

Appropriate testing will be determined by traveler's epidemiological information collected from HQS and/or QAMS.

1. Suspect avian influenza cases:
Nasopharyngeal specimens taken from passengers that meet criteria for suspect avian influenza⁴ will be collected and transported to the SLD for rti-RT-PCR *only*. Positive influenza A specimens that are not sub-typed as H1-H3 OR are sub-typed as H5 will be referred to CDC's Strain Surveillance Laboratory in Atlanta, GA for

further analysis and confirmation. Additional test specimens may be requested by either HQS or HDOH and may include nasopharyngeal, nasal, and throat specimens.

2. International and domestic passengers:

Nasopharyngeal specimens taken from passengers traveling from outside the United States will be transported to the SLD for rti-RT-PCR and culture isolation. Sub-typing will be performed on all influenza A positive isolates. All specimens that are determined to be unsubtypable by culture or rti-RT-PCR will be referred to CDC's Strain Surveillance Laboratory in Atlanta, GA for further analysis and confirmation.

D. Description of diagnostics utilized:

1. Real time TaqMan RT-PCR (rti-RT-PCR): The State Laboratory Division can type respiratory specimens and subtype influenza A-positive specimens using a Taqman-based real-time reverse transcriptase PCR assay developed by CDC and released to public health laboratories by APHL. Preliminary report(s) will be available within 6-8 hours from the time the specimen is received at the BT Response Laboratory. The clinical sensitivity and specificity of rti-RT-PCR for both influenza A and B assays are 100%. All specimens that are not from suspect avian influenza will undergo confirmatory testing and sub-typing.
3. Culture Isolation: Culture isolation, using CMK and MDCK cell lines, will be performed on all specimens from individuals that do not meet suspect avian influenza criteria for purposes of influenza strain identification. Culture results may take approximately 14 days for confirmed results, but may also take up to 35 days to confirm no virus growth.

¹ Hawaii State Department of Business, Economic Development & Tourism, Research and Economic Analysis Division, 2000 Annual Visitor Research Report (2001), pp 58-60.

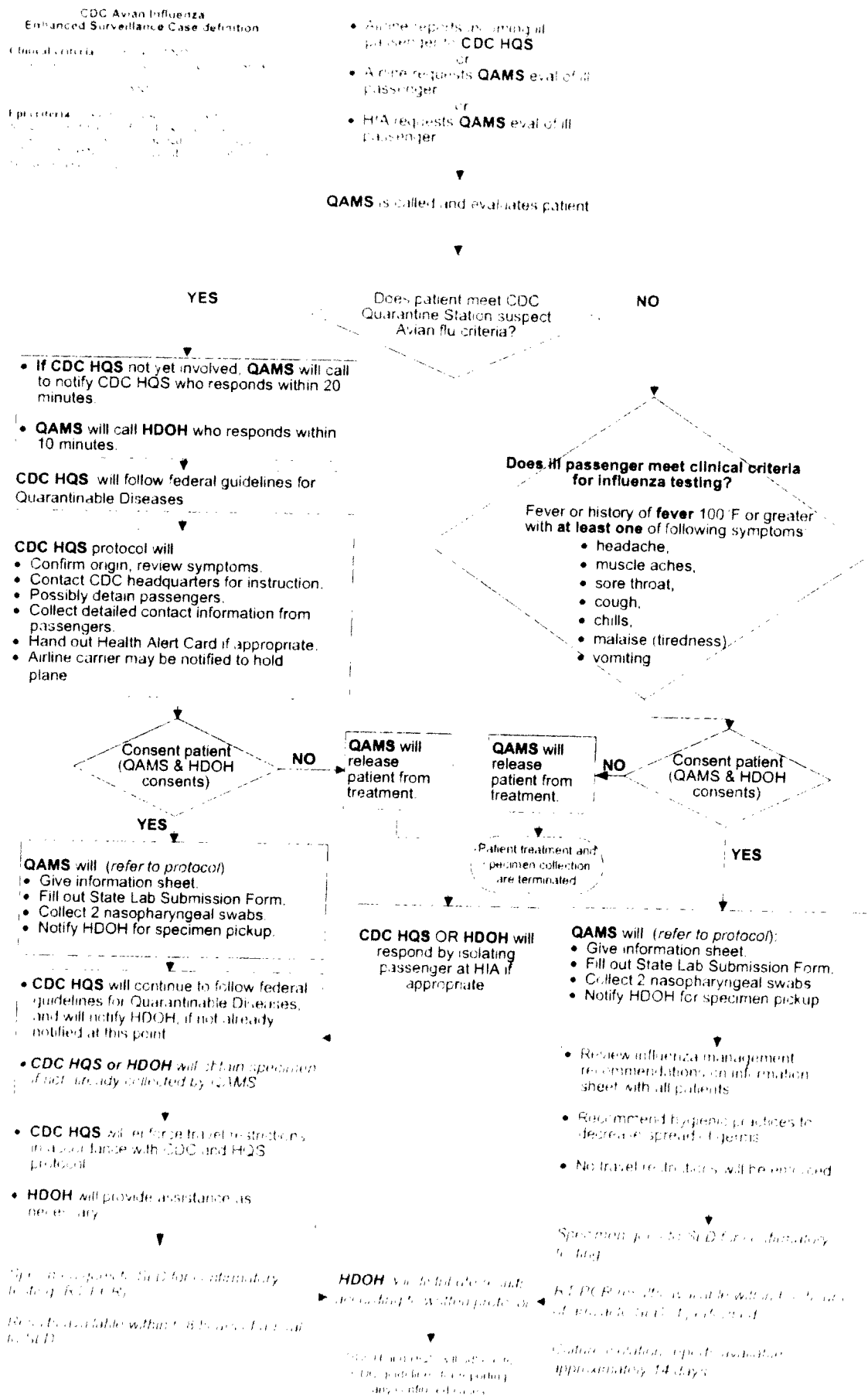
² Lasher LE, Ayers TL, Amornkul PN, et al. 2004. Contacting Passengers After Exposure to Measles on an International Flight: Implications for Responding to New Disease Threats and Bioterrorism. Public Health Reports. 119:458-462.

³ The list of Quarantinable Communicable Diseases is contained in Executive Order 13295 of the President and includes cholera, diphtheria, infectious tuberculosis, plague, smallpox, yellow fever, and viral hemorrhagic fevers, such as Marburg, Ebola and Congo-Crimean. Revised list on April 4, 2003 includes SARS.

<http://www.gdc.gov/newsroom/executiveorder040403.htm>.

⁴ CDC. Update on Avian Influenza A (H5N1) August 12, 2004. (<http://www.cdc.gov/flu/avian/>)

Algorithm for Influenza Testing at Honolulu International Airport



HAWAII DEPARTMENT OF HEALTH

CONSENT FOR DIAGNOSTIC EVALUATION

CONSENT TO DIAGNOSTIC EVALUATION: I authorize and consent to the Queen's Health Care Centers to collect and submit specimens to the Hawaii Department of Health for diagnostic evaluation of influenza.

RELEASE OF INFORMATION

I understand that my health information including possible exposure history may be disclosed to the Hawaii Department of Health for the purposes of conducting public health surveillance and response.

I certify that I have read this Consent and that I am the *patient* or *the* patient's appointed representative, and I accept and agree to be bound by the Consent, a Copy of which *will* be made available upon request.

X _____ Date: _____ Time: _____ a.m./p.m.
SIGNATURE OF PATIENT (required for patients aged 10 years and older)

X _____ Date: _____ Time: _____ a.m./p.m.
SIGNATURE OF PATIENT'S REPRESENTATIVE (required for patients aged 18 years and under)

RELATIONSHIP TO PATIENT

INFORMED REFUSAL TO DIAGNOSTIC EVALUATION: I refuse to consent to the Queen's Health Care Centers to collect and submit specimens to the Hawaii Department of Health for diagnostic evaluation of influenza offered to me at no charge.

I understand that if I refuse the services offered as indicated above, I am doing so against the recommendation of the public health authority in the State of Hawaii. I understand that my refusal may inhibit proper diagnosis and treatment which could result in a worsening of my (patient's) condition.

X _____ Date: _____ Time: _____ a.m./p.m.
SIGNATURE OF PATIENT (required for patients aged 10 years and older)

X _____ Date: _____ Time: _____ a.m./p.m.
SIGNATURE OF PATIENT'S REPRESENTATIVE (required for patients aged 18 years and under)

RELATIONSHIP TO PATIENT

Patient Information: Influenza testing

Dear Sir/Madam:

The swab that was taken from your nose will be tested for influenza. The Hawaii Department of Health will attempt to contact you at the local residence indicated on the State Laboratory Submission Form. If we do not succeed in making telephone contact, your test results will be mailed to the address indicated on the State Laboratory Submission Form.

While the tests to be used (RT-PCR and culture isolation) are **not** 100% conclusive, they are licensed tests widely used in medical care in the U.S. If you have further questions regarding this test or your results, please contact the Disease Investigation Branch of the Hawaii Department of Health at (808) 586-4586.

If your test result was **POSITIVE** and you are concerned about your health, seek further medical attention. The Queen's Airport Medical Staff can provide you with a list of local clinics.

Stop the Spread of the Flu!

Serious respiratory illnesses like influenza are spread by:

- Coughing or sneezing
- Unclean hands

To help stop the spread of germs,**Avoid close contact.**

Avoid close contact with people who are sick. When you are sick, keep your distance from others to protect them from getting sick too.

Stay home when you are sick.

If possible, stay home from work, school, and errands when you are sick. You will help prevent others from catching your illness.

Cover your mouth and nose.

Cover your mouth and nose with a tissue when coughing or sneezing. It may prevent those around you from getting sick. Note: You may be asked to put on a surgical mask to protect others.

Patient Information Sheet: What You Should Know If You Have the Flu

How should the flu be treated?

- | | |
|---|---|
| <ul style="list-style-type: none"> • Get plenty of rest • Drink plenty of liquids • Avoid using alcohol and tobacco • You may take over-the-counter medications to relieve the symptoms | <p>of flu but <i>never</i> give aspirin to children or teenagers who have flu-like symptoms – and particularly fever – without first speaking to your doctor.</p> |
|---|---|

If you are at high risk for complications of the flu, consult your health-care provider. Your doctor may recommend use of an **antiviral medication** (see next section) to help treat the flu. Persons at high risk for complications include the following:

- persons aged ≥ 65 years;
- residents of nursing homes and other chronic-care facilities that house persons of any age who have chronic medical conditions;
- adults and children who have chronic disorders of the pulmonary or cardiovascular systems, including asthma;
- adults and children who have required regular medical follow-up or hospitalization during the preceding year because of chronic metabolic diseases (including diabetes mellitus), renal dysfunction, hemoglobinopathies, or immunosuppression (including immunosuppression caused by medications or by human immunodeficiency virus [HIV]);
- children & adolescents (aged 6 months-18 years) who are receiving long-term aspirin therapy; they might be at risk for experiencing Reye syndrome after influenza infection;
- women who will be pregnant during the influenza season; and
- children aged 6--23 months.

Antiviral Medications

Four antiviral drugs (amantadine, rimantadine, zanamavir, and oseltamivir) are approved for treatment of the flu. These are prescription medications, and a doctor should be consulted before the drugs are used. Antiviral treatment lasts for 5 days and must be started within 2 days of illness so if you get flu-like symptoms, seek medical care early.

Look Out for Warning Signs that the Illness is Worsening

There are some “emergency warning signs” that require urgent medical attention.

In children, emergency warning signs that need urgent medical attention include:

- Fast breathing or trouble breathing
- Bluish skin color
- Not drinking enough fluids
- Not waking up or not interacting
- Being so irritable that the child does not want to be held
- Flu-like symptoms improve but then return with fever and worse cough
- Fever with a rash

In adults, emergency warning signs that need urgent medical attention include:

- Difficulty breathing or shortness of breath
- Pain or pressure in the chest or abdomen
- Sudden dizziness
- Confusion
- Severe or persistent vomiting

Seek medical care immediately (call your doctor or go to an emergency room) if you or someone you know is experiencing any of the signs above. When you arrive, tell the reception staff that you think you have the flu. You may be asked to wear a mask and/or sit in a separate area to protect others from getting sick.

MEDICAL MICROBIOLOGY BRANCH
HAWAII STATE DEPARTMENT OF HEALTH
1735 WAIMANO HOME ROAD
PEARL CITY, HAWAII 96782
Appendix 4

STATE HEALTH DEPARTMENT NUMBER

STATE REFERENCE LABORATORY NUMBER

**STATE LABORATORY
SUBMISSION FORM**
FOR RESPIRATORY
SPECIMENS COLLECTED
FOR INFLUENZA
SURVEILLANCE ONLY

PATIENT IDENTIFICATION

FIRST NAME (GIVEN NAME) & MIDDLE INITIAL		LAST NAME (SURNAME or FAMILY NAME)	
CITIZENSHIP: U.S. Citizen? <input type="checkbox"/> YES <input type="checkbox"/> NO	COUNTRY OF CITIZENSHIP	DATE OF BIRTH (mm/dd/yy)	SEX: <input type="checkbox"/> MALE <input type="checkbox"/> FEMALE
OCCUPATION:			

PERMANENT MAILING ADDRESS

STREET ADDRESS		PHONE #
CITY	ZIP CODE	COUNTRY

LOCAL CONTACT INFORMATION- ADDRESS

LOCAL ADDRESS OR LOCATION (PROVIDE HOTEL NAME AND LOCATION WHEN APPLICABLE (i.e. The Princess Kaiulani Hotel, Waikiki))		
STREET ADDRESS:		PHONE #
CITY	ZIP CODE	COUNTRY

TRAVEL INFORMATION

AIRLINE CARRIER: _____	LIST ALL TRAVEL WITHIN THE 10-DAY PERIOD PRIOR TO ONSET OF ILLNESS (PLACES AND DATES if known) CITIES, COUNTRIES _____ DATES: (mm/dd/yy) _____ _____ _____
FLIGHT#: _____	
ORIGIN OF FLIGHT: _____	
EXPECTED DATE OF DEPARTURE FROM HAWAII (mm/dd/yy): _____	

CLINICAL SIGNS AND SYMPTOMS

CHECK ALL THAT APPLY:	DATE OF ONSET OF SYMPTOMS (mm/dd/yy): _____
<input type="checkbox"/> FEVER (Maximum temp. _____ F)	RECEIVED INFLUENZA VACCINE IN PAST 12 MONTHS? <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> UNKNOWN IF YES, GIVE YEAR _____ AND MONTH _____
<input type="checkbox"/> COUGH	
<input type="checkbox"/> SORE THROAT	
<input type="checkbox"/> MALAISE	
<input type="checkbox"/> MUSCLE ACHES	
<input type="checkbox"/> CHILLS	
<input type="checkbox"/> DIARRHEA	
<input type="checkbox"/> VOMITING	
<input type="checkbox"/> HEADACHES	
<input type="checkbox"/> OTHER: _____	

DOES PASSENGER MEET SUSPECT AVIAN INFLUENZA CRITERIA?	<input type="checkbox"/> YES <input type="checkbox"/> NO
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ADDITIONAL COMMENTS:

SPECIMEN INFORMATION:

DATE OF SPECIMEN COLLECTION (MM/DD/YY)	TIME _____ AM / PM	PROVIDER SIGNATURE _____
TYPE OF SPECIMEN <input type="checkbox"/> NASOPHARYNGEAL SWAB <input type="checkbox"/> OTHER Specify _____	TITLE _____	

DEPARTMENT OF HEALTH USE ONLY

DON'T WRITE BELOW THIS LINE

Table 1: Contact numbers: To report SUSPECT AVIAN INFLUENZA

	Specimen collection time	Notify this office	Telephone number
Suspect avian influenza (or other quarantinable disease)	Anytime	CDC Honolulu Quarantine Station	861-8530
	7:45am - 4:30pm	DOCD, HDOH	586-4586
	4:30pm – 7:45am	<i>HDOH after-hours operator (566-5049)</i> <i>Speak with Standby Duty Officer</i>	586-4586

Table 2: Contact numbers: To call for LAB SPECIMEN PICKUP

	Specimen collection time	Notify this office	Telephone number
SUSPECT AVIAN INFLUENZA (or other quarantinable disease)	7:45am - 4:30pm	DOCD, HDOH	586-4586
	4:30pm – 7:45am	<i>HDOH after-hours operator (566-5049)</i> <i>Speak with Standby Duty Officer</i>	586-4586
NOT suspect avian influenza	7:45am - 4:30pm	DOCD, HDOH	586-4586
	4:30pm – 7:45am	<i>HDOH after-hours operator (566-5049)</i> <i>Speak with Standby Duty Officer</i>	586-4586